

Application Field

Automotive Industry

- Tensile tests at cables and connections.
- Tensile tests at wire ropes and flexible shafts.
- Measure flip force in mechanical snap action switches.
- Test forces required to move linkages and tension cables.
- Evaluate physical efforts (door lock, hood, glove compartment, brake pedal, etc.).
- Test clutch release force.

Electrical & Electronics Industry

- Tensile tests of crimped terminals.
- Insertion and extraction tests of connectors.
- Cable insulation pull-off testing.
- Test removal force of connector pins in plugs.
- Strain and break tests of copper, silver and steel wires.
- Test spring clip insertion and withdrawal forces.
- Shearing tests e.g. of SMD components.
- Testing cable ties.
- Test force springs and magnets used in various fields.
- Material test of electronic and electrical components.
- Test connection parts e.g. of EURO and SCHUKO connectors
- Test actuating requirements on push buttons and flip switches.

Chemical & Plastics Industry

- Tensile test of plastics, rubber, fibres and filaments.
- Test peel strength of adhesives.
- Test crush strength of pills (medicine).
- Measure compression of ceramic compounds.
- Testing subcutaneous syringes.

Machinery & MFG

- Test pull-out force of drive shaft.
- Test force to open cabinet doors.
- Test sprocket chain tension.
- Test load on wire feed mechanism.
- Rate testing of springs in systems.

Other Industries

- Test tensile strength of materials.
- Test firmness of food.
- Test load to remove pull tab of cans.
- Test pressure of surgical instruments (forceps, scissors).
- Pull test on zippers.
- Test integrity of seals on blister packages and plastic bags.
- Test adhesion strength of labels and stickers
- Measure force to perforate cards.

Example of application: Tensile strength of crimped connections and end sleeves

AWG	Comparable conductor cross sections [mm ²]	Turned and closed contacts DIN EN 60352-2, values in [N]	Open barrel contacts and pre-insulated barrels DIN EN 60352-2, values in [N]	Flat receptacles & flat tabs nominal size 4,8/6,3/9,5 DIN 46249-1, values in [N]	SAE AS7928 table II values in [N]	End sleeves insulated and non-insulated DIN EN 57609 values in [N]
30	0,05	7	6			
28	0,08	12	11			
26	0,14	18	18	20	32	
24	0,2	30	28		45	
23	0,25			40		
22	0,34	40			67	
20	0,5	80	60	80	85	15
18	0,75		90	120	170	20
17	1	140	100	160		30
16	1,25				223	
15	1,5	220	135	200		40
14	1,93				312	
13	2,5	330	190	250		50
12	4			350	490	
11		500	270			50
10	6	700	350	500		60
8	10	900	500			80
6	16					90
4	25					100
2	35					120
1	50					140
2/0	70					160
3/0	95					180
4/0	120					200

Abstracts from a. m. standards, all specifications without guarantee and excluding all liability.
 DIN 41611-3 replaced by DIN EN 60352-2; MIL-T-7926 replaced by SAE AS7928 table 2; UL486A and BS5B178 corresponds to IEC 60352-2